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EXAMINER

MAYO, TARA L

ART UNIT PAPER NUMBER

3671

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,798

Applicant(s)

STOECKER ET AL.

Examiner

Tara L. Mayo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>20050418</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 03 March 2005. These drawings are acceptable.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 through 28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claims 1 through 28, the Specification fails to provide support for a method of providing cooling water from under a “floor” of a water reservoir. Applicant consistently uses the term “bottom” throughout the original disclosure; nowhere does Applicant refer to a “floor” of the water reservoir.

With regard to claims 9, 21, 27 and 28, the Specification fails to provide support for the step of discharging the delivered cooling water “back” into the water reservoir or “returned” to the water reservoir. In paragraph 00025, Applicant discloses water being conveyed from under

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the bottom of a water reservoir and not from the actual body of water. Therefore, it is not accurate to recite the step of discharging the water “back” into the reservoir.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Rider (U.S. Patent No. 6,422,318 B1).

Rider ‘318, as seen in Figures 1 and 3, shows a cooling water intake system (10) comprising a delivery assembly configured to deliver cooling groundwater from under a floor of a water reservoir to equipment, the proper functioning of which requires cooling. Specifically, Rider ‘318 is *capable* of delivering cooling groundwater from under a floor of a water reservoir to equipment and anticipates the claim because the recitation of “configured to” only requires the ability of the patented delivery assembly to perform the recited function.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1 through 8, 10 through 12, 14 through 20 and 22 through 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (U.S. Patent No. 6,422,318 B1) in view of Cherrington (U.S. Patent No. 4,319,648).

Rider '318, as seen in Figures 1 and 3, disclose a method for providing cooling water to a facility (col. 9, lines 6 through 10) comprising the steps of:

with regard to claim 1,

extending at least one pipe (16, 18, 20) beneath a soil layer (34); and

delivering ground water from under the bottom of the soil layer through said at least one pipe to the facility;

with regard to claim 2,

filtering the ground water through a sand substrate (12) beneath the soil layer before deliverance thereof to the facility;

with regard to claim 3,

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forming at least one elongated tunnel (col. 6, line 66 through col. 7, line 12) beneath the soil layer; and

extending a first pipe (18) within the at least one elongated tunnel;
with regard to claim 4,

wherein the step of forming the tunnel includes horizontal directional drilling (col. 6, line 66); and

the method further comprising the step of placing at least one second pipe (16) into the at least one elongated tunnel;

with regard to claim 5,

wherein the first and at least one second pipe extend substantially horizontally;
with regard to claim 6,

wherein the distal ends of the first and at least one second pipe extend transversely to the bottom;

with regard to claim 7,

further comprising the step of providing the distal end of the first and at least one second pipe with a screening assembly configured to filter solid particles from the groundwater to avoid pipeline sediment incursion (col. 3, lines 40 through 44);

with regard to claim 8,

wherein the delivery of groundwater from beneath the soil layer includes providing a pump station (58) at the surface of the soil layer;

with regard to claim 10,

wherein the first and at least one second pipe are dimensioned uniformly;

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with regard to claim 12,

wherein the first pipe has a proximal end and a distal end, which extends beneath the soil layer, the method further comprising the step of extending the proximal end of the first pipe beneath the soil layer.

Rider '318 further discloses a cooling water intake system configured to deliver groundwater from an aquifer beneath a soil layer (34) comprising:

with regard to claim 14,

a sand substrate (12);

at least one tunnel (214); and

at least one elongated pipe (18);

with regard to claim 15,

a second pipe (18) substantially uniformly sized with the first pipe; and

a pump assembly (58);

with regard to claim 16,

wherein the distal ends of the first and second pipes extend transversely to the bottom of the soil layer and have a filter assembly (col. 3, lines 40 through 44);

with regard to claim 17,

wherein the distal ends of the first and second pipes are perforated and covered by a screening assembly being woven wire screencloths (col. 7, lines 29 through 47); and

with regard to claim 18,

wherein the distal end includes elongated slots that are linear (col. 7, lines 33 through 36).

Rider '318 discloses all of the features of the claimed invention with the exception(s) of:
with regard to claim 1,

the facility having equipment requiring cooling for proper functioning; and

the groundwater delivered to the facility for cooling of the equipment;

claims 1 and 14,

the soil layer containing a water reservoir having a floor;

with regard to claims 2 and 14,

the sand substrate being of the floor of the water reservoir; and

the water reservoir being a water body selected from the group consisting of an ocean,
sea, river and lake;

with regard to claims 3 and 14,

forming the tunnel under the floor of the water reservoir; and

the first pipe terminating at a distance from a shore of the water reservoir;

with regard to claims 8 and 20,

providing the pump station on a shore or bank of the water reservoir or on the floor
thereof;

with regard to claims 11 and 23,

the first and at least one second pipe being dimensioned non-uniformly, the method
further comprising the arranging the non-uniformly dimensioned first and second pipes in a
succession of pipe groups, wherein each successive pipe group has pipes of a uniform length,

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which is greater than a uniform length of pipes constituting a previous one of the succession of pipe groups;

with regard to claim 19,

the filtering assembly including a screen covering the first and second pipes;

with regard to claim 20,

the pump assembly being selected from the group consisting of a turbine pump, a suction lift self-priming centrifugal pump, high head submersible pump and a combination thereof;

with regard to claim 22,

the perforations being non-uniformly dimensioned;

with regard to claim 24,

the screening assembly having a screen size of about 0.02 inch (0.5 mm);

with regard to claim 25,

the equipment being in an onshore facility; and

with regard to claim 26,

the onshore facility being selected from the group consisting of a power plant, a nuclear plant, and a desalination plant.

Cherrington '648, as seen in Figure 1, discloses a method for horizontal directional drilling beneath a soil layer including a water reservoir (10), such as a river (col. 1, lines 61 through 64), wherein a first pipe extends beneath the water reservoir in a tunnel and terminates at a distance from a shore of the water reservoir.

With regard to claim 1, Rider '318 broadly teaches a facility (col. 9, lines 6 through 10) but fails to teach the facility including equipment requiring cooling for proper functioning. However, facilities include "equipment" and it would have been obvious to one having ordinary skill in the art at the time of invention to modify the method disclosed by Rider '318 such that the groundwater delivered to the facility would be used to cool the equipment. The motivation would have been to provide the equipment with coolant from an economical source.

With regard to claims 1, 2, 3, 8, 14 and 20, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time of invention to modify the method disclosed by Rider '318 such that it would performed beneath the floor of a water reservoir as suggested by Cherrington '648. The motivation would have been to access an aquifer beneath a body of water.

With regard to claims 11 and 23, it would have been obvious to one having ordinary skill in the art at the time invention of invention to modify the method disclosed by the combination of Rider '318 and Cherrington '648 such that it would further include the step of arranging a plurality of pipes having non-uniform lengths into successive groups since such a modification would have involved a mere duplication of the essential working parts of the invention and a mere change in size of the same, both of which are recognized as involving only routine skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With regard to claim 19, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time the invention was made to modify the device disclosed by the combination of Rider '318 and Cherrington '648 such that the filtering assembly

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would further include a screen covering the first and second pipes since it is a well known expedient in the art to use screens for filtration.

With regard to claim 20, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time the invention was made to make the pump assembly of the device shown by the combination of Rider '318 and Cherrington '648 a turbine pump. The motivation would have been to use an efficient pump capable of producing a high discharge pressure.

With regard to claim 22, it would have been obvious to one having ordinary skill in the art of water resources engineering at the time the invention was made to make the perforations of the device shown by the combination of Rider '318 and Cherrington '648 non-uniform. The motivation would have been to vary the intake velocity of the groundwater into the pipe along the length of the pipe.

With regard to claim 24, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the screen size of the screen assembly shown by the combination of Rider '318 and Cherrington '648 0.02 inch, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With regard to claim 25, it would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the equipment in an onshore facility since the same is a well-known expedient.

With regard to claim 26, in view of the broad teaching by Rider '318 of a "treatment facility" (col. 9, line 9), it would have been obvious to one having ordinary skill in the art of

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water resources engineering at the time of invention to modify the method disclosed by Rider '318 such that the water would be used at a desalination plant since the same is a type of treatment facility.

Response to Arguments

9. Applicant's arguments filed 03 March 2005 have been fully considered but they are not persuasive.

In response to Applicant's statements that Rider '318 fails to anticipate claim 13 because it does not disclose a delivery assembly which delivers ground water from under the bottom or a floor of a water reservoir, it is noted the claim only requires the delivery assembly be "configured to" perform the recited function. Therefore, the rejection of claim 13 under 35 USC §102(b) is maintained.

In response to Applicant's statements that Cherrington '648 fails to teach a motivation for accessing ground water from under the bottom or a floor of a water reservoir, the Examiner notes the reference was only relied upon for a teaching of drilling beneath a water reservoir. Rider '318 expressly teaches a method for delivering groundwater from beneath a geologic formation to surface facilities and was modified by Cherrington '648 to show the desirability and common knowledge of drilling beneath a body of water.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the

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time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara L. Mayo whose telephone number is 571-272-6992. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 571-272-6998. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



14 May 2005



Thomas B. Will
Supervisory Patent Examiner
Group 12